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10/598,436	08/30/2006	Young-Joo Oh	B1180/20057	5030

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EXAMINER	
LOFFREDO, JUSTIN E	
ART UNIT	PAPER NUMBER
3744	

NOTIFICATION DATE	DELIVERY MODE
10/14/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patents@crbcp.com

Office Action Summary	Application No.	Applicant(s)	
	10/598,436	OH ET AL.	
	Examiner	Art Unit	
	JUSTIN LOFFREDO	3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 July 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *21,24-30,33,35-38 and 40* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *21,24-30,33,35-38 and 40* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 August 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. The amendment filed July 26, 2010 has been entered. Claims 21, 24-30, 33, 35-38 and 40 remain pending in the application.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. **Claims 21, 33, 35 and 40** are rejected under 35 U.S.C. 103(a) as being unpatentable over Rode (US Patent No. 6,044,648) in view of Roslonski (US Patent No. 3,595,030) and Arner et al. (Arner) (US Patent No. 4,566,293).

Consider claim 21. Rode discloses cooling equipment (40) for cooling a cryogenically cooled material, said cooling equipment comprising: a cooling space (50) having an open, upper end (annotated Fig. 3) capable of receiving the cooled material; inner walls (52) and (54) limiting the cooling space (50); a lid (46); an outer wall (ann. Fig. 3); plenums (56), (58) and (60), which make up the claimed intermediate space between the outer wall and the inner walls (52) and (54); and a perforated tube (66) (corresponding to the claimed cooling agent supply line)

communicating with and emptying into the intermediate space adjacent the open, upper end of the cooling space (50) (ann. Fig. 3) for introducing liquid nitrogen, a cryogenic cooling agent, whereby most of the liquid cooling agent is vaporized, which indicates that not all of the liquid cooling agent is necessarily vaporized, and thus, some of the liquid cooling agent can be introduced in the intermediate space (see col. 1, L 59-col.2, L 7); wherein the cooling agent supply line (66) empties into the intermediate space between the inner walls (52) and (54) and the outer wall, and continuously transfers the cooling agent into the cooling space (col. 3, L 10-48; Fig. 3).

Rode fails to disclose a porous buffer material arranged in the intermediate space; the cooling agent supply line introducing the cooling agent into the porous buffer material; the cooling agent being transferred from the buffer material through the inner wall into the cooling space in a gaseous phase, the inner wall being permeable; and no cooling agent lake forming in the cooling equipment. Roslonski teaches a porous buffer material (34) arranged in an outer compartment (32) (corresponding to the claimed intermediate space), and an inner wall (20) having holes (36) (corresponding to the claim that the inner wall is permeable) (col. 2, L 24-71; Fig. 2). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the cooling equipment disclosed by Rode to also incorporate the porous buffer material arranged in the intermediate space and the inner wall being permeable as taught by Roslonski so that the cooling agent supply line introduces the cooling agent into the porous buffer material to then transfer the cooling agent from the buffer material through the inner wall, in order to more effectively insulate and maintain a reduced temperature in the cooling space while distributing the cooling agent to pass through the permeable inner wall into the cooling

space. Furthermore, the presence of the porous buffer material would capture liquid refrigerant flowing through the intermediate space not vaporized in the cooling agent supply line, thereby preventing the formation of a cooling agent lake in the cooling equipment.

Rode fails to disclose a removable protective bell on the cooling space, the bell including an interior chamber communicating with the open, upper end of the cooling space at least partially transparent, glove sleeves on a front side thereof, and a cold gas outlet located on a lower side of the bell communicating with the cooling space through the open, upper end of the cooling space and the interior chamber of the bell. Arner teaches a removable protective bell (10) having an interior chamber (Fig. 1), the bell (10) being at least partially transparent (col. 3, L 5-8), glove sleeves (21) on a front side thereof, and a cold gas outlet (25) located on a lower side of the bell (10) communicating with the interior chamber (see e.g. col. 3, L 5-58; Fig. 1). It would have been obvious to one of ordinary skill in the art at the time of the invention to replace the removable cover (46) and modify the cooling equipment disclosed by Rode to include a removable, protective, partially transparent bell with an interior chamber, glove sleeves, and a cold gas outlet communicating with the interior chamber as taught by Arner so that the bell is on and opened to the cooling space, the interior chamber of the bell communicating with the open, upper end of the cooling space, whereby the cold gas outlet also communicates with the cooling space through the open, upper end of the cooling space in order to protect temperature sensitive items to be cooled within the cooling space, and to allow for the gas that has already exchanged heat with the items to be released so that fresh cooling gas can be introduced into the cooling space, thereby promoting a more efficient cooling operation rather than ineffectively recirculating warmer gas. The transparent bell and glove sleeves together allow the items within

the cooling space to more accurately be arranged or prepared in situ without permitting gas exchange while allowing a user to monitor the items through the transparent portion of the bell. For the forgoing reasons, one of ordinary skill in the art would have found it obvious to modify the cooling equipment disclosed by Rode to incorporate the protective bell arrangement as taught by Arner to be arranged as claimed by the applicant here.

Consider claim 21. The following is provided in case the applicant disagrees with the examiner's determination that the inclusion of the porous buffer material into the intermediate space of Rode would capture any liquid refrigerant escaping the cooling agent supply line: While Rode as modified fails to explicitly disclose that no cooling agent lake forms in the cooling equipment, official notice is taken that it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the cooling equipment disclosed by Rode as modified to include a drain member, a valve for instance, to either automatically or manually allow a user to ensure that liquid cooling agent does not build up in the cooling equipment. The buildup of liquid refrigerant would be disadvantageous for a variety of reasons, namely; vaporized cooling agent would not be able to flow into the porous buffer material and into the cooling space to cool an item contained therein because the cooling agent supply pipe, at least part of it, could be immersed in liquid cooling agent; the liquid refrigerant could harm the operation of the fan (64); and liquid refrigerant buildup would also pose cleaning problems for a user wanting to clean the inside of the cooling equipment. For at least the forgoing reasons a person of ordinary skill in the art would have found it obvious to modify the cooling equipment of Rode as modified to include a drain-type member to prevent the formation of a cooling agent lake anywhere in the cooling

equipment. Regarding the other limitations of claim 21 the applicant should refer to the rejection of claim 21 immediately preceding this explanation.

Consider claim 33. Rode as modified discloses the invention as claimed, and Arner discloses that the protective bell (10) has a sample holder (28) (corresponding to the claimed sample lock) (see e.g. col. 3, L 60-65; Figs. 4, 5).

Consider claim 35. Rode as modified discloses the invention as claimed, and Rode specifically discloses a pressure relief valve (80) and aperture (82) (corresponding to the claimed another cold gas outlet) via which cooling agent and cold gas can escape from the cooling space (50) being arranged on an upper side of the cooling space (50) (Col. 3, L 5-7 & 36-40; Figure 3).

Consider claim 40. Rode as modified discloses the invention as claimed, and Rode specifically discloses a cooling agent such as liquid nitrogen (Col. 3, L 2-3).

5. **Claims 24, 29 and 30** are rejected under 35 U.S.C. 103(a) as being unpatentable over Rode, Roslonski and Arner as applied to claim 21, and further in view of Binder (US Patent No. 5,601,143).

Consider claim 24. Rode as modified discloses the invention as claimed but fails to disclose the inner wall being substantially grid shaped. Binder teaches inner walls (18) of a limiting a space (10), the inner walls (18) having a plurality of apertures (38) (corresponding to the inner wall being substantially grid shaped). The apertures are clearly positioned on a network of substantially uniformly spaced horizontal and perpendicular lines (see Figure 4), which renders the wall substantially grid shaped (col. 3, L55-60; Figure 4). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the inner wall of the cooling device disclosed by Rode as modified to be substantially grid shaped as taught by Binder

in order to produce a connection between the cooling space and the inner wall that allows refrigerant to flow into the cooling space in a uniform manner.

Consider claims 29 and 30. Rode as modified discloses the invention as claimed but fails to disclose a heating element being arranged in the cooling space; or that the heating element is arranged under a heating plate, the heating plate having several perforations that make a circulation of gas possible. Binder teaches a heating element (44) being arranged in a cooling space; the heating element (44) being arranged under the base (12) and behind side walls (18), which make up a heating plate, the heating plate having several apertures (38) (i.e. perforations) that make a circulation of gas possible (col. 3, L 30-60; col. 4, L 11-14, 49-56; Fig. 4). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the cooling device disclosed by Rode as modified to include the heat element arrangement taught by Binder in order to control the temperature of the circulating air in the cooling space.

6. **Claims 25 and 26** are rejected under 35 U.S.C. 103(a) as being unpatentable over Rode, Roslonski and Arner as applied to claim 21, and further in view of Barthel (US Patent No. 4,481,779).

Consider claims 25 and 26. Rode as modified discloses the invention as claimed but fails to disclose the inner wall being made of a thermally conductive material, which further consists essentially of metal. Barthel teaches that the inner wall (28) of a cooling container can be made of any material composition, e.g. metal or plastic (col. 5, L 26-27), metal being a thermally conductive material. It would have been obvious to one or ordinary skill in the art at the time of the invention to modify the cooling device disclosed by Rode as modified to include a thermally conductive inner wall taught by Barthel in order to provide a thermally conductive material

effective for cooling, whereby metal is a material that will retain its form after being repeatedly subjected to cold shocks at liquid nitrogen temperatures.

7. **Claims 27 and 28** are rejected under 35 U.S.C. 103(a) as being unpatentable over Rode, Roslonski and Arner as applied to claim 21, and further in view of Palma (US Patent No. 3,618,336).

Consider claims 27 and 28. Rode as modified discloses the claimed invention, but fails to disclose the cooling space being vat shaped where the cooling agent supply line has a cooling agent distributor along an upper circumferential edge adjacent the open, upper end to introduce a cooling agent into the intermediate space in a distributed manner over the length of the cooling agent distributor. Palma teaches a cooled coffin structure where the wall of the coffin is hollow and passages are provided which are cooling agent distributors communicating with the interior of the hollow wall and the interior of the coffin, which is the cooling space, and means such as a blower or fan are provided outside of the coffin to continuously circulate air which is a cooling agent through the hollow walls so that a stream of cooling agent flows into the intermediate space and then into the cooling (col. 1, L 46-55; col. 2, L 13-15). A channel (20) that is a cooling agent supply line extends circumferentially along the internal sides of the wall portion (14) adjacent an open, upper end (col. 1, L 46-55; Col. 2, L 13-15). It would have been obvious to one or ordinary skill in the art at the time of the invention to modify the cooling device disclosed by Rode as modified to incorporate the cooling distribution arrangement as taught by Palma in order to more uniformly distribute the cooling agent throughout the entire cooling space.

8. **Claim 36 and 38** are rejected under 35 U.S.C. 103(a) as being unpatentable over Rode, Roslonski and Arner as applied to claim 21, and further in view of Weng (US Patent No. 6,845,628).

Consider claim 36. Rode as modified discloses the claimed invention, but fails to disclose a temperature sensor in the cooling space capable of measuring a temperature in the cooling space; a controllable cooling agent valve capable of adjusting an amount of cooling agent supplied; or a temperature control device capable of regulating the temperature in the cooling space, the temperature control device being connected on an input to the temperature sensor and on an output side to the cooling agent valve. Weng teaches a temperature control device with a temperature sensor that senses temperature at a specified location within a refrigeration apparatus. The temperature control device has a first flow valve (corresponding to the claimed cooling agent valve) that can selectively increase or decrease the flow of refrigerant in response to temperature sensed by the sensor. The temperature sensor also contains a controller (corresponding to the claimed temperature control device) that is capable of controlling the valve in response to temperature sensed (col. 2, L 2-14). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the cooling device with a cooling space disclosed by Rode as modified to incorporate the temperature controlling arrangement and temperature sensor as taught by Weng in order to monitor and provide reliable control for the temperature within the cooling space of the device by providing the sensor within the cooling space so that the temperature is appropriate for cooling products.

Consider claim 38. Rode as modified discloses the invention as claimed, and Weng specifically discloses that the temperature sensor senses temperature at a specified location

within the refrigeration apparatus (i.e. in the cooling space as discussed in the rejection of claim 36) capable of measuring a temperature of a cryosample in the cooling space (col. 2, L 2-14).

9. **Claim 37** is rejected under 35 U.S.C. 103(a) as being unpatentable over Rode, Roslonski, Arner and Weng as applied to claim 36, and further in view of Ali (US Patent No. 5,546,756).

Consider claim 37. Rode as modified discloses the claimed invention, but fails to disclose the temperature control device connected via a pulse generator to the cooling agent valve, where the pulse generator is capable of alternatively opens and closes the cooling agent valve. Ali discloses a controller (1) (corresponding to the claimed temperature control device) including, i.e. connected via, a pulse generator to valve (6) (corresponding to the claimed cooling agent valve), where the pulse generator is capable of alternatively opening and closing the cooling agent valve (6) via a pulse width control signal (col. 2, L 61-61; col. 3, L 4-10, 37-40; Fig. 1). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the cooling device disclosed by Rode as modified to include the controller and valve arrangement taught by Ali in order to control cooling within the cooling space by controlling the amount of cooling agent that flows through the valve and into the cooling space.

Examiner Notes

10. There are many examples of functional language recited in the pending apparatus claims such as: "cooling equipment *for cooling a cryogenically cooled material to be manipulated, processed, or investigated*" (claim 1, lines 1-2 of the claim); "an open, upper end *for receiving the cooled material and from which the cooled material is* removable" (claim 1, lines 3-4 of the claim); and "a cold gas outlet*...for permitting cooling agent...to prevent misting over of said protective bell*" (claim 1, lines 13-16). Applicant should note that a recitation of the intended use

of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. Since the prior art structure in the instant case is capable of performing the intended use, it meets the claim.

Rode – Figure 3

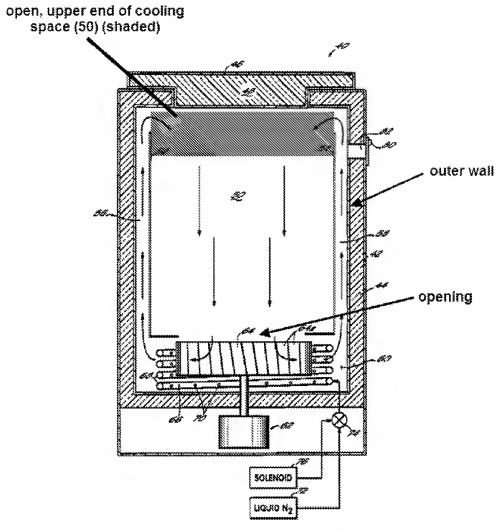
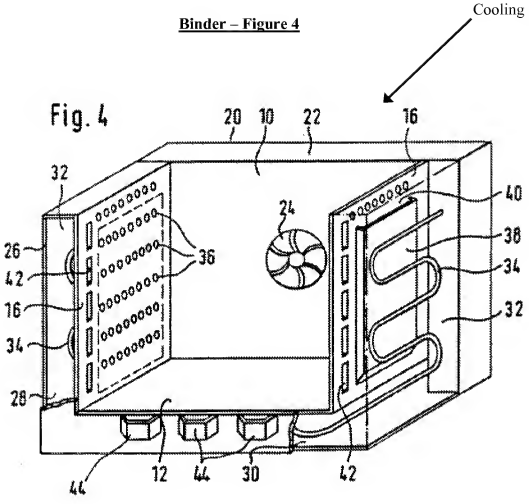


FIG. 3

Binder – Figure 4



Response to Arguments

11. The following is in response to the applicants arguments filed July 26, 2010.

12. The applicant's arguments regarding the prevention of formation of a cooling agent lake in the cooling equipment have been fully considered but are moot in view of the new grounds of rejection necessitated by the applicant's amendment to the claims. In particular, an alternate ground of rejection for independent claim 21 has been provided in case the applicant disagrees with the examiner's first determination that the cooling equipment of Rode as modified can prevent the formation of any cooling lake.

13. The applicant's remaining arguments have been fully considered but they are not persuasive for the following reasons:

14. In response to the applicant's argument (see e.g. Remarks p. 8) that because the examiner, in the office action filed April 27, 2010, admitted that a cooling agent lake could form within plenum (60) of Rode, this means that a cooling agent lake does in fact form there, the examiner disagrees. The relevant claim (claim 1, last line of the claim) recites "wherein no cooling agent lake forms in the cooling equipment." This limitation is not limiting as to *when* no cooling agent lake forms in the cooling equipment (i.e. could this limitation be met as long as no cooling lake formed when the equipment was not running, or does this limitation mean that no cooling agent lake forms in the cooling equipment at any time?). Even if, however, the applicant intends the claim to mean that no cooling agent lake can ever form in the cooling equipment, the examiner has decided the following: first, Rode as modified includes the porous buffer material, which would preclude the formation of a cooling agent lake in the cooling equipment; and secondly, in case the applicant disagrees with the first rationale, a person of ordinary skill in the

art would have found it obvious to modify the cooling equipment of Rode as modified to further include a drain-type element, like a drain pipe with a valve, in case any cooling agent liquid does begin to build up in the cooling equipment, in which case a used can drain the liquid from the equipment to avoid problems mentioned in the forgoing rejection of claim 21.

15. In response to the applicant's argument (Remarks p. 9) that the combination of Roslonski with Rode is improper because the cooling systems are different, Roslonski being directed to a portable device to cool a beverage while Rode and the claimed cooling apparatus employ cryogenic fluid, so that one skilled in the art would not think to employ any feature of Roslonski with the cooling equipment of Rode, the examiner disagrees. The Rode and Roslonski references are sufficiently analogous in that they are in the same field of endeavor, i.e. the field of utilizing a cooling medium to cool contained items. Further evidence that the references are in the same field of endeavor is not only that both references are classified in class 62, but the "Field of Search" for each reference is overlapping (compare the cover pages of the Rode and Roslonski references, which indicate that class 62, subclass 64 was searched for each reference). This overlap indicates that the references are sufficiently related, i.e. they deal with sufficiently related subject matter, so that the references are analogous.

16. In response to the applicant's argument (Remarks p. 9) that the combination of Rode with Roslonski is improper because Roslonski does not use cryogenic fluid, the examiner disagrees. While the applicant acknowledges that it is improper to address only the deficiencies of individual references when addressing obviousness based on a combination of references (Remarks p. 8), this argument is in fact a piecemeal attack on the Roslonski reference individually. Rode discloses the use of a cryogenic fluid, and Rode is modified by Roslonski in

the rejection of claim 21 to incorporate the porous buffer material arranged in the intermediate space, and the inner wall being permeable. The cooling agent of Roslonski is not replacing the cryogenic cooling agent of Rode. One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

17. In response to the applicant's argument (Remarks p. 9-10) that the modification of the intermediate space of Rode to include the porous buffer material of Roslonski is improper because Rode already provides an insulating material outside of the intermediate space, suggesting that no buffer material is to be provided in the intermediate space, the examiner disagrees. In the rejection of claim 21 the examiner decided that this modification would have been obvious because providing such a porous buffer material in the intermediate space of Rode not only would more effectively insulate and maintain a reduced temperature in the cooling space, but also that the buffer material would capture liquid refrigerant flowing through the intermediate space not vaporized in the cooling agent supply line, thereby preventing the potentially harmful formation of a cooling agent lake in the cooling equipment. The fact that the cooling equipment of Rode already employs an insulation material outside of the intermediate space does not teach away from providing additional insulation-like material elsewhere in the cooling equipment, especially when doing so would improve the ability of the device to maintain a reduced temperature for more efficient treatment of temperature sensitive items contained therein. The disclosure of Rode does not appear to criticize, discredit or discourage providing additional insulation-like material elsewhere in the cooling equipment, and therefore, Rode does

not appear to teach away from doing so, as claimed by the applicant. Furthermore, additional insulation capability is not the only reason for modifying Rode to include buffer material in the intermediate space; the ability to capture liquid that could build up and harm the cooling equipment is another reason set forth in this office action.

18. In response to the applicant's argument (Remarks p. 10) suggesting that the combination of Rode and Roslonski is improper because the flow of refrigerant in Roslonski is in a direction opposite to that required in the claimed invention, the examiner disagrees. Firstly, the applicant has failed to provide any evidence or reasoning as to why such a difference renders the combination improper. Additionally, this appears to be a piecemeal attack on the Roslonski reference individually. One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller* at 413; *In re Merck & Co.* at 1091.

19. In response to the applicant's argument (Remarks p. 10-11) that the combination of prior art does not provide a system to deal with the problem identified by the applicant, namely to prevent misting over of the protective bell, the examiner disagrees. The examiner has provided rationales as to why a person of ordinary skill in the art would have found it obvious to combine the prior art to meet the applicant's claimed invention, and it is not necessary that the prior art suggest the combination to achieve the same advantage or result discovered by applicant, i.e. the combination does not have to solve the same problem identified by the applicant (MPEP 2144 IV).

20. In response to applicant's argument (Remarks p. 10) that the examiner's conclusion of obviousness with respect to the combination of Rode, Roslonski, and Arner is based upon

improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). Here, the examiner has provided a rationale for this combination of references that was not gleaned only from the applicant's disclosure. The rationale is found in the combination of references themselves, and the knowledge generally available to one of ordinary skilled art at the time of the invention, as provided in the rejection of claim 21.

21. In response to the applicant's argument (Remarks p. 11) that Arner fails to disclose a protective bell communicating the interior chamber with the cooling space as claimed, the examiner disagrees that this renders the combination improper or that the combination does not meet the claim. Referring to the rejection of amended claim 21 in this office action, the examiner provided the following:

> ...Arner teaches a removable protective bell (10) having an interior chamber (Fig. 1), the bell (10) being at least partially transparent (col. 3, L 5-8), glove sleeves (21) on a front side thereof, and a cold gas outlet (25) located on a lower side of the bell (10) communicating with the interior chamber (see e.g. col. 3, L 5-58; Fig. 1). It would have been obvious...to replace the removable cover...disclosed by Rode to include a removable, protective, partially transparent bell with an interior chamber, glove sleeves, and a cold gas outlet communicating with the interior chamber as taught by Arner so that the bell is on and opened to the cooling space, the interior chamber of the bell communicating with the open, upper end of the cooling space, whereby the cold gas outlet also communicates with the cooling space through the open, upper end of the cooling space in order to protect temperature sensitive items to be cooled within the cooling space, and to allow for the gas that has already exchanged heat with the items to be released so that fresh cooling gas can be introduced into the cooling space, thereby promoting a more efficient cooling operation rather than ineffectively recirculating warmer gas. The transparent bell and glove sleeves together allow

the items within the cooling space to more accurately be arranged or prepared in situ without permitting gas exchange while allowing a user to monitor the items through the transparent portion of the bell.

The applicant's amendment to the claims to require that the interior chamber of the protective bell communicate with the open, upper end of the cooling space necessitated the new grounds of rejection provided here. The examiner has decided, however, that the combination of Rode, Roslonski, and Arner would have been obvious for the reasons provided in the claim rejections.

22. In response to the applicant's argument (Remarks p. 12) that the reliance on the Palma reference is improper because it is for a coffin and therefore totally unrelated, the examiner disagrees. Under this analysis, the cooling agent distributor taught by Palma solves the problem identified by the applicant (see applicant's disclosure, p. 4) of uniformly introducing cooling agent into the space to promote uniform temperature distribution since Palma discloses providing the hollow cooling agent distributor passages to circulate air over and around the entire interior space for more effective cooling (see e.g. col. 1, L 40-60), which provides a reason for combining the elements in the manner claimed.

Conclusion

23. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JUSTIN LOFFREDO whose telephone number is (571) 270-7114. The examiner can normally be reached on M - F 7:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler and Frantz Jules can be reached on (571) 272-4834 and (571) 272-6681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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